

REMARKS

The Office Action of July 26, 2005, has been carefully considered.

Claim 1 has now been amended to incorporate the recitations of Claims 2 and 3, which have been canceled, and to better explain the operation of the invention as shown in Figures 1 through 5. Thus, the light emitting diode device of Claim 1 includes a lower reflection film provided on an upper surface of the circuit substrate and an upper reflection film provided on an upper surface of the resin layer, the upper reflection layer being disposed opposite the LED and being constructed and arranged to transmit a portion of light rays emitted by the LED through the upper reflection layer in a forward direction and to reflect another portion of the light rays emitted by the LED. The light rays reflected by the upper reflection layer are further reflected by the lower reflection film, and the light rays reflected by the lower reflection film are discharged in a forward direction to be diffused.

Claims 1 through 6 have been rejected under 35 USC 102(b) as being anticipated by Ohtsuki et al.

The invention as claimed is not disclosed or suggested by Ohtsuki et al, which discloses a light guide plate. As shown in Figures 35 and 36, the device comprises LED lamps 53, a light-directing plate 50 made of resin, a reflecting plate 112, and a display board 111. The light emitted from lamps 53 passes through the light-directing plate 50, and is directed to display 111 by the reflecting plate 112 placed in close contact with the light-directing plate 50, thereby illuminating display 111.

The rejection appears to be based on a combination of features from various embodiments disclosed by Ohtsuki et al. For example, Fig. 1 includes a white, light reflecting surface

54a, the apparent purpose of which is to direct as much light as possible towards light-directing plate 50. However, the upper light reflecting layer 95 is found in Figs. 21-23 with no mention of light reflecting surface 54a. Moreover, the upper light reflecting surface 95 is not disposed opposite to the LED's; to the contrary, "the high reflection layer 95 is formed on areas except for the areas facing the light-releasing surface 70a of the LED lamp 70" (col. 21, lines 38-40). This high reflection layer appears to be disposed specifically to prevent light from being reflected back to substrate 54.

According to the invention, the upper reflecting surface reflects a portion of the light from the LED back to the lower reflecting film to cause diffusion of the light.

Moreover, the reflection layer 91 of Fig. 14, would appear to prevent diffusion of light, and appears to be provided so more of the light is directed to the light-directing plate 50, with minimal return to the substrate. In this regard, an anti-reflection layer 81 may also be used.

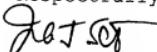
Because the object of Ohtsuki et al is to limit the expansion area of the illuminating light within the area of the light-directing plate 50, this device cannot illuminate an object having an area larger than light-directing plate 50. The object of the invention is the contrary, to cause the light rays emitted to be laterally expanded in order to illuminate a large area by a small light source. These are the light rays which are reflected by the upper reflection layer and further reflected by the lower reflection film.

As the structure disclosed by Ohtsuki et al does not permit lateral expansion of light rays so that a small light source can illuminate a larger area, withdrawal of this rejection is requested.

In view of the foregoing amendments and remarks,

Applicants submit that the present application is now in condition for allowance. An early allowance of the application with amended claims is earnestly solicited.

Respectfully submitted,


Ira J. Schultz
Registration No. 28666

LAW OFFICES
DENNISON, SCHULTZ, DOUGHERTY & MACDONALD

SUITE 100
1727 KING STREET
ALEXANDRIA, VIRGINIA 22314-2700

703.897-9500